

*Low Effect Habitat Conservation Plan for the
California Tiger Salamander
for the AT&T Portable Generator Storage Facility
Yolo County, California*

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EXECUTIVE SUMMARY

AT&T Services, Inc. (Landowner and Project Proponent) has applied for a permit pursuant to Section 10(a)(1)(B) of the Endangered Species Act of 1973 as amended (16 U.S.C. 153101544, 87 Stat. 884), from the U.S. Fish and Wildlife Service (USFWS) for the incidental take of the threatened California tiger salamander (CTS) (*Ambystoma californiense*). The potential take could occur incidental to the construction of a new storage facility for portable generators within the undeveloped portion of the 45-acre AT&T property located along the north side of County Road 6 in Yolo County (County), California. The footprint of the proposed storage facility and the adjacent paved surfaces and water dispersion features would result in the permanent loss of approximately 1.49 acres of upland habitat (project site); however, 0.25 acre of this upland includes lands that have been heavily compacted and partially covered with asphalt during construction of the existing facility. Therefore, the total amount of permanent loss of suitable CTS habitat is 1.24 acres.

Presently, the developed portion of the AT&T property encompasses approximately 9 acres and consists of a paved parking lot, an underground telecommunications facility, and several aboveground concrete buildings and other structures. The undeveloped portion of the AT&T property (approximately 36 acres) consists mainly of disturbed annual grassland that was previously used for grazing.

Grading for the new building and paving of the parking lot would result in the removal of potential CTS upland habitat. Although protocol surveys for CTS were not conducted, adults were observed within the developed portion of the A&T property as recently as October 25, 2010, following a weekend of heavy rain, and again on October 29th, and appear to use the paved parking lot as an overland migration route on their way to breeding ponds. Larval CTS were also documented in the seasonal wetland west of the project site (on AT&T property) by Eric Hansen on April 15 and 30, 2011.

CTS were documented on the AT&T property in the 1980s by George Hansen (CNDDDB 2010). Therefore, the landowner is applying for a Section 10(a)(1)(B) permit and proposes to implement the habitat conservation plan (HCP) described herein, which provides for measures for mitigating adverse effects on CTS. The landowner is requesting issuance of the Section 10(a)(1)(B) permit for a period of five (5) years. During the past year, prior to the submittal of this HCP and permit application, the landowner has consulted informally with the USFWS, Sacramento Fish and Wildlife Office, and the California Department of Fish and Game, Region II.

This HCP summarizes information about the Proposed Project and identifies the responsibilities of the USFWS and the project proponent/landowner for implementing the actions described herein to benefit CTS. During informal consultation with the USFWS prior to the preparation of this HCP, the landowner and his representatives have modified the original building footprint to avoid the most suitable CTS upland habitat and minimize the impact area. No changes are being proposed to the remainder of the property and all existing and potential CTS breeding habitat will be avoided.

AT&T will satisfy all mitigation requirements for the loss of CTS upland habitat by purchasing the appropriate number of credits at a federally-approved mitigation bank. Other avoidance and minimization measures are described in this HCP.

This HCP also describes measures that ensure the elements of the HCP are implemented. Funding sources for implementation of the HCP, actions to be taken for unforeseen events, and alternatives to the proposed permit action are also discussed.

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1.0 INTRODUCTION

This Habitat Conservation Plan (HCP) has been prepared for AT&T's Portable Generator Storage Facility (Proposed Project) located on the north side of County Road 6, approximately 2.8 miles west of Interstate 5 in Yolo County, California. It has been prepared pursuant to the requirements of Section 10(a) of the Federal Endangered Species Act (ESA). The HCP is intended to provide the basis for issuance of a Section 10(a)(1)(B) permit to AT&T, the permit applicant and landowner, to authorize incidental take (see Section 6.0) of the California tiger salamander (CTS) (*Ambystoma californiense*), a federally- and state-listed threatened species, that could result from grading and construction activities necessary to construct a new emergency generator storage facility on 1.49 acres within the 45-acre AT&T property.

The AT&T property contains suitable breeding and upland habitat for CTS. Adult CTS were observed in the developed portion of the AT&T property as recently as October 25 and 29, 2010, following a weekend of heavy rain. Larval CTS were observed in the seasonal wetland complex on the AT&T property on April 15 and 30, 2011. Both adult and larval CTS were documented in one of the retention ponds on the AT&T property, southeast of the developed area, by George Hansen during spring surveys conducted between 1985 and 1990 (CNDDDB 2010).

In addition to providing suitable breeding habitat (i.e., the two retention ponds east of the developed area and the seasonal wetland complex west of the developed area), the project site also provides suitable non-breeding (upland) habitat and is the only property that is not intensely farmed in the vicinity. The Proposed Project would result in the permanent loss of 1.24 acres of CTS upland habitat and the temporary disturbance to an additional 0.33 acre of upland habitat. Therefore, the Proposed Project may result in take of this species. AT&T requests a permit for a period of 5 years commencing on the date of permit approval.

This HCP provides an assessment of the existing habitat on the project site for CTS, evaluates the effects of the Proposed Project, and presents a mitigation plan to offset habitat losses and/or direct harm to CTS that could result from grading and construction activities on the project site. One of the main biological goals of this HCP is to maintain appropriate natural buffers to allow the movement of adult CTS across the project site and to safeguard potential breeding habitat. Specifically, modifications to the original building footprint are discussed that were made to minimize potential adverse effects on CTS.

As a provider of crucial telecommunications facilities and services, AT&T engages in emergency preparedness planning to minimize the down time of its telecommunications facilities following major disasters such as earthquakes, floods, landslides, hurricanes, or tornadoes throughout the United States. Impacts as a result of downtime could effect 911, national defense, state and local governments, essential operations such as the California Highway Patrol, police, and fire. One of the most significant threats to telecommunications during an emergency is the loss of commercial power. AT&T intends to implement actions that would allow it to deploy portable generators to critical communications facilities to restore function to these facilities as quickly as possible following a disaster. The generators at the project site would be towed on trailers to wherever they are needed throughout the western United States, to provide temporary power,

until permanent power can be restored. AT&T prefers that all portable generators serving a region be centrally located at one site so that in the event of a disaster, their deployment can be coordinated efficiently from one facility.

1.1 PROJECT LOCATION

The AT&T property is located on the north side of County Road 6, approximately 2.8 miles west of Interstate 5, northwest of the town of Dunnigan in Yolo County, California (Figure 1). The property can be found on the United States Geological Survey (USGS) Wildwood School 7.5-minute topographic quadrangle, specifically in Township 12 N, Range 1 W, Section 18 of the Mt. Diablo Meridian. Coordinates to the approximate center of the site are: 38.88744° N and 122.01986° W (UTM Zone 10 N.4304755; E.585006).

1.2 GENERAL SITE CONDITIONS

The project site is located in the Dunnigan Hills, which is characterized by rolling hill topography. The highest elevation on AT&T's property (287 feet above sea level) is at AT&T's existing facility and the lowest elevation is at the northcentral edge of the project site (229 feet above sea level). Except for the developed portion of the AT&T property, which is paved and fenced, the surrounding land is fallow and portions are lightly grazed for fire control. The dominant plant community within the project site is non-native annual grassland. The most common species comprising this plant community include wild oat (*Avena barbata*), yellow star-thistle (*Centaurea solstitialis*), barbed goatgrass (*Aegilops triuncialis*), bull thistle (*Cirsium vulgare*), and rose clover (*Trifolium hirtum*). Other common species include soft chess (*Bromus hordeaceus*), Mediterranean barley (*Hordeum marinum*), ripgut brome (*Bromus diandrus*), medusa head (*Taeniatherum caput-medusa*), and perennial rye (*Lolium perenne*).

Surface drainage within the property flows to the north and southeast. According to the wetland delineation prepared by Gibson & Skordal, LLC (2010) the property contains approximately 0.7999 acre of aquatic features. These include two drainage courses consisting of an ephemeral channel (0.0906 acre), which flows south to north bisecting the western portion of the project site, and a seasonal wetland swale (0.0325 acre), located in the extreme southeastern corner of the project site, which flows to the east. Both of these are unnamed tributaries to Dunnigan Creek. There is also a seasonally inundated pond (0.333 acre) in the western portion of the project site and two retention ponds (0.3438 acre) that are located immediately southeast and adjacent to the developed area.

Figure 1. Location Map

1.3 HCP HISTORY

Because the project site lies within the historic and current range of CTS, the USFWS, Sacramento Fish and Wildlife Office, was contacted in the early stages of the planning process. An informational meeting took place on August 5, 2010, between USFWS staff, Sacramento Fish and Wildlife Office (Jana Affonso, and Jason Hanni), AT&T representatives, and Eric Hansen, Consulting Herpetologist, to discuss the Proposed Project. A meeting with James Navicky, Biologist, California Department of Fish and Game (CDFG), AT&T representatives, and their consultants took place on October 6, 2010. Ongoing telephone and email communication has occurred between Miriam Green (HCP author) and Mike Thomas and Jason Hanni (USFWS biologists) during the preparation of the HCP. AT&T representatives and their consultants met with CDFG (Todd Gardner, Wildlife Biologist, Region II) in a second meeting on April 6, 2011. Several subsequent telephone conversations took place between CDFG staff and AT&T's biological consultant team during April and May 2011.

Since no Federal agency is involved with the permitting, funding, or carrying out of the project and a federally listed species is involved, formal consultation between that agency and the USFWS pursuant to section 7 of the ESA is not applicable. Instead, since a federally listed species is involved, an incidental take permit pursuant to Section 10(s)(1)(B) of the ESA is being sought.

2.0 PROJECT DESCRIPTION

AT&T maintains an existing facility, housing telecommunications (voice and data) and electrical equipment at its Dunnigan property. This facility consists of several above ground concrete/cinderblock buildings, an underground telecommunications facility, and a paved parking lot surrounded by a metal security fence with a keypad entry.

Prior to construction of the Proposed Project, AT&T will acquire and store seventy-five (75) 5.5 kW and 7.5 kW portable generators inside trailer vans uncovered on the paved portion of its Dunnigan facility. A 110v GFI outlet will power each of the 75 uncovered trailers. The portable generators are on order and delivery is expected in summer 2011. These improvements will take place within the existing paved portion of the site; therefore, no approvals are needed to proceed with this work.

2.1 NEW STORAGE BUILDING

The Proposed Project consists of the construction of a new storage facility to house portable generators on a portion of the undeveloped property located immediately adjacent to AT&T's existing facility. The storage facility consists of a metal building, with approximate dimensions of 100 feet 6 inches by 251 feet immediately north and adjacent to the existing paved surface, to allow on-site storage of fifty (50) 40-kw portable diesel generators and one hundred seventy-five (175) 5-kw portable diesel generators (Figure 2). These 225 generators would be stored on trailers, but would not be connected to a power source. The building, which would have an east-west orientation, would include vertical support columns spaced 25 feet apart on center along the 251-foot dimension and at each corner, to support the roof. There would be open sidewalls to allow trailers to be easily moved in and out by forklifts or similar equipment. A 45-foot-wide asphalt driveway would surround the building on all four sides to provide access to the building by forklifts.

The footprint of the storage building would encompass 25,101 square feet and surrounding asphalt and concrete paving (including the loading dock) would be 33,233 square feet, for a total paved surface area of 58,334 square feet, or approximately 1.34 acres. In addition, 0.15 acre would be permanently lost through the creation of water dispersion bioswales, resulting in a total of 1.49 acres of permanently lost upland. However, 0.25 acre of the upland permanently lost includes lands immediately north of the northern boundary of the existing paved area, which was compacted and partially covered with asphalt during construction of the existing facility. Because this land is not suitable habitat for CTS [due to its lack of burrows and friable soils], the total amount of permanent CTS upland habitat loss is reduced to 1.24 acres.

Construction of the Proposed Project would include both cut (2,162 cubic yards [cy]) and fill (5,272 cy). Thus, the volume of fill material that would need to be imported to create a level pad is approximately 3,110 cy. The contractor has indicated that the most likely source of fill material would be from the Granite Construction facility located at 900 West Elkhorn Boulevard in Rio Linda. Because the Granite borrow site has been continuously disturbed there would be

Figure 2. Proposed Layout – Portable Generator Storage Facility

no adverse effects on listed species. Fill material would be transported via Interstate 5 to the construction site.

Operation of the Proposed Project would involve only minimal and intermittent activities. Maintenance would involve periodic (monthly) testing of each generator. Because the generators are intended for use only following a major disaster, they would be deployed only during the infrequent occurrences of such a disaster.

AT&T has incorporated measures into the Proposed Project to avoid and/or minimize adverse environmental effects. Currently, storm water on the paved portion of the property is collected at the perimeter fencing through catch basin drains in the pavement. These drains empty onto the hillside surrounding the property and/or into rock riprapped areas.

The grading and drainage for the Proposed Project was designed to mimic existing conditions while utilizing best management practices to reduce storm water pollution impacts. This will be done by providing surface drainage for the majority of the site to infiltration planters. The planters will be designed in accordance with Regional Water Quality Control Board recommendations to provide maximum filtration of storm water pollutants. In addition, the planters are being designed with a flow control structure to attenuate the increase in storm water runoff resulting from the new building and paved area. The infiltration planters will discharge to outfalls designed with energy dissipaters to prevent downstream erosion. The outfalls will be placed in areas that were previously receiving concentrated flow.

Surface drainage from the new facility will not result in any change of flow into the seasonal wetland complex west of the project site. Surface runoff from the new facility will be routed toward the northeast and has been designed so it will not have any effect on downstream areas. As stated above, 0.15 acre of upland would be permanently lost through the creation of water dispersion bioswales; this acreage has been included in the total area of permanent impact. No additional "take" is associated with the proposed drainage design.

Since the purpose of the Proposed Project is to store diesel generators, a key environmental safety feature is to provide spill containment. The storage area will be covered to minimize possible stormwater contamination. The concrete building pad of the storage area will slope inward to a pair of drains connected to a 320-gallon concrete sand-oil separator. Once the sand and oil are separated, water would be diverted to the storm drain system and discharged to the eastern section of the property, away from the wetland areas on the western portion of the site. Any sand and oil that remains in the tank will need to be periodically removed by vacuum truck and disposed of off-site. Since the storage area is covered minimum runoff is expected.

Finally, AT&T intends to hydroseed all temporarily disturbed areas (approximately 0.33 acre) with a native seed mix to minimize the potential for soil erosion. Areas that are subject to temporary disturbance during construction include lands surrounding the paved portions of the project site. No additional "take" is expected to occur from hydroseeding operations.

2.2 PERMIT HOLDER/PERMIT BOUNDARIES

AT&T Services, Inc., will be the holder of the Section 10(a)(1)(B) permit. Their representative is Mark Edgar II, Senior Project Manager, Corporate Real Estate. He can be reached via email at mark.edgar@att.com or by telephone at (916) 977-8010. Ms. Miriam Green, M.S., Wildlife Biologist, is the contact person for this HCP. She may be reached via email at miriamgreen@earthlink.net or by telephone at (916) 673-9793 or fax at (916) 608-0635.

The entire construction site is included in the permit boundaries.

2.3 ZONING AND SURROUNDING LAND USES

The AT&T property is located in an agricultural area and is zoned by Yolo County as an Agricultural Exclusive Zone; however, the improvements made by AT&T have been in existence for more than 30 years. The project site is not located on prime, unique farmland, or on farmland of Statewide Importance. Site soils are shown in the Yolo County General Plan under Irrigated Land Capability Classification as Class VII, having “very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland and/or wildlife habitat.” Lands immediately surrounding the AT&T property support dry farming and grazing.

3.0 REGULATORY FRAMEWORK

3.1 FEDERAL REGULATIONS

3.1.1 Endangered Species Act of 1973

The Endangered Species Act of 1973 (ESA), 15 United States Code (U.S.C.) Section 1531 *et seq.*, provides for the protection and conservation of various species of fish, wildlife, and plants that have been federally listed as threatened or endangered. Section 9 of the ESA prohibits the "take" of any fish or wildlife species by any person subject to the jurisdiction of the United States that is listed as endangered under the ESA unless such take is otherwise specifically authorized pursuant to either Section 7 or Section 10(a)(1)(B) of the ESA. Pursuant to the implementing regulations of the ESA, the take of fish or wildlife species listed as threatened is also prohibited unless otherwise authorized by the USFWS.

"Take" is defined in the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Federal regulation 50 CFR 17.3 further defines the term "harm" in the "take" definition to mean any act that actually kills or injures a federally-listed species, including significant habitat modification or degradation. Activities otherwise prohibited under ESA Section 9 and subject to the civil and criminal enforcement provisions under ESA Section 11 may be authorized under ESA Section 7 for actions by Federal agencies and under ESA Section 10 for nonfederal entities.

Section 10(a) of the ESA establishes a process for obtaining an "incidental take permit," which authorizes non-federal entities to incidentally take federally listed wildlife or fish subject to certain conditions. "Incidental take" is defined by the ESA as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." Preparation of a conservation plan, generally referred to as a habitat conservation plan or HCP, is required for all Section 10(a) permit applications. The USFWS and the National Marine Fisheries Service (NMFS) have joint authority under the ESA for administering the incidental take program. Generally, NMFS has jurisdiction over marine and anadromous species and the USFWS has jurisdiction for over land and freshwater species.

Section 7 of the Endangered Species Act requires all Federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the ESA or result in the destruction or adverse modification of its habitat. Technically, the issuance of an incidental take permit is an authorization for take by a Federal agency; in conjunction with issuing a permit, the USFWS must conduct an internal Section 7 consultation on the proposed HCP. The internal consultation is conducted after an HCP is developed by a non-federal entity (e.g., Miriam Green Associates) and submitted for formal processing and review. Provisions of Sections 7 and 10 of the ESA are similar, but Section 7 requires consideration of several factors not explicitly required by Section 10. Specifically, Section 7 requires consideration of the indirect effects of a project, effects on federally listed plants and animals, and effects on critical habitat. (The ESA requires that the USFWS identify critical habitat to the maximum extent that it is prudent and determinable when a species is

listed as threatened or endangered.) The internal consultation results in a Biological Opinion prepared by the USFWS regarding whether implementation of the HCP will result in jeopardy to any listed species or adversely modify critical habitat.

The Section 10 process for obtaining an incidental take permit has three primary phases: 1) the HCP development phase; 2) the formal permit processing phase; and 3) the post-issuance phase.

During the HCP development phase, the project applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- measures that will be implemented to monitor, mitigate for, and minimize impacts;
- funding that will be made available to undertake such measures;
- procedures to deal with unforeseen circumstances;
- alternative actions considered that would minimize or not result in take; and
- additional measures the USFWS may require as necessary or appropriate for purposes of the plan.

The HCP development phase concludes and the permit-processing phase begins when a complete application package is submitted to the appropriate permit-issuing office of USFWS. The complete application package for a low-effect HCP consists of: 1) an HCP; 2) a completed permit application; and 3) a \$100 permit fee from the applicant.

According to section 10(a)(2)(B) of the ESA and associated Federal regulations, HCPs must meet six requirements before an incidental take permit can be issued. These requirements are:

1. All takings must be incidental,
2. Impacts must be minimized and mitigated "to the maximum extent practicable,"
3. There must be both adequate funding, and provisions to address "unforeseen circumstances,"
4. The taking must "not appreciably reduce the likelihood of the survival and recovery of the species in the wild,"
5. The applicant must ensure that additional measures required by federal regulators will be implemented, and
6. Federal regulators must be certain that the HCP can and will be implemented.

The USFWS must publish a "Notice of Availability" of the NEPA document and receipt of a complete HCP application package in the Federal Register; prepare a Section 7 Intra-Service Biological Opinion; prepare a Set of Findings that evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria and 5-point policy (see below); and prepare an Environmental Action Statement (a brief document that serves as the USFWS's record of compliance with NEPA for categorically excluded actions (see below), if it is a low-effect HCP.

An implementing agreement is not typically required for a low-effect HCP. A Section 10 incidental take permit is granted upon determination by the USFWS that all requirements for permit issuance have been met.

Federal regulators must be certain that the HCP can and will be implemented. On March 9, 1999, the USFWS and NMFS published proposed guidelines (64 FR 11485) to clarify and strengthen the use of HCPs as conservation tools under the ESA. The proposed guidelines were intended to improve the way HCPs are developed and administered in five areas:

- 1) Establishment of measurable biological goals and objectives,
- 2) Use of adaptive management,
- 3) Monitoring to ensure proper compliance with an HCP,
- 4) Increased public participation, and
- 5) Permit duration.

If the HCP addresses all of these requirements and those of other applicable laws, a permit can be issued. After receipt of a complete application, an HCP and permit application is typically processed within one year. This schedule includes the Federal Register notice and 30-day public comment period.

During the post-issuance phase, the permittee and other responsible entities implement the HCP and the USFWS monitors the permittee's compliance with the HCP and the long-term progress and success of the HCP. The public may be notified of permit issuance through publication in the Federal Register; however, this is a discretionary action by the USFWS.

3.1.2 National Environmental Policy Act of 1969

The National Environmental Policy Act (NEPA) of 1969, as amended, requires that Federal agencies analyze the environmental impacts of their proposed actions (i.e., issuance of an incidental take permit) and include public participation in the planning and implementation of their actions. Although Section 10 of the ESA and NEPA requirements overlap considerably, the scope of NEPA also considers the impacts of the proposed action on non-biological resources, such as water quality, air quality, and cultural resources. Depending upon the scope and impact of the HCP, NEPA compliance is obtained through one of three actions:

- 1) Preparation of an Environmental Impact Statement (EIS) (generally prepared for high-effect HCPs);
- 2) Preparation of an Environmental Assessment (EA) (generally prepared for moderate-effect HCPs); or
- 3) A categorical exclusion (allowed for low-effect HCPs).

The NEPA process helps Federal agencies make informed decisions with respect to the environmental consequences of their actions and ensures that measures to protect, restore, and enhance the environment are included, as necessary, as a component of their actions. Low-effect HCPs, as defined in the USFWS (1996b) Habitat Conservation Planning Handbook, are categorically excluded under NEPA, as defined by the Department of Interior Manual 516DM2, Appendix 1, and Manual 516DM6, Appendix 1.

3.2 CALIFORNIA REGULATIONS

3.2.1 California Environmental Quality Act

In many ways, the California Environmental Quality Act, commonly known as CEQA (Public Resources Code Section 21000 *et seq.*), is analogous at the state level as NEPA is to the federal level. CEQA applies to projects that require approval by state and local public agencies. It requires that such agencies disclose a project's significant environmental effects and provide mitigation whenever feasible. This environmental law covers a broad range of environmental resources. With regard to wildlife and plants, those that are already listed by any state or federal governmental agency are presumed to be endangered for the purposes of CEQA and impacts to such species and their habitats may be considered significant.

The Yolo County Planning Department has indicated that no action is needed by the County for AT&T to construct the Proposed Project and no CEQA document will be prepared (E. Parfrey pers. comm.).

3.3 YOLO COUNTY REGULATIONS

The project site is zoned as an Agricultural Exclusive Zone; however, the improvements made by AT&T have been in existence for more than 30 years. The project site is not located on prime, unique farmland, or on farmland of Statewide Importance. Site soils are shown in the Yolo County General Plan under Irrigated Land Capability Classification as Class VII, having "very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland and/or wildlife habitat." The site is shown as "Other Land" on the Important Farmlands Map, indicating, "*Land not included in any other mapping category.*" (County of Yolo 2009). The Proposed Project is consistent with the existing zoning and General Plan.

4.0 BIOLOGY

4.1 HABITAT TYPES

The dominant plant community on the project site is non-native annual grassland. The most common species comprising this plant community include wild oat (*Avena barbata*), yellow star-thistle (*Centaurea solstitialis*), barbed goatgrass (*Aegilops triuncialis*), bull thistle (*Cirsium vulgare*), and rose clover (*Trifolium hirtum*). Other common species include soft chess (*Bromus hordeaceus*), Mediterranean barley (*Hordeum marinum*), ripgut brome (*Bromus diandrus*), medusa head (*Taeniatherum caput-medusa*), and perennial rye (*Lolium perenne*).

Surface drainage within the project site flows to the north and southeast. Two drainage courses flow through the property. One is an ephemeral channel, which flows south to north bisecting the western portion of the site. The other is a swale located in the southeast corner of the property, which flows to the east. Both of these are unnamed tributaries to Dunnigan Creek. Dunnigan Creek flows east to the Colusa Drain, which is a tributary to the Sacramento River at Knights Landing.

According to the wetland delineation prepared by Gibson & Skordal, LLC (2010) the project site contains approximately 0.7999 acre of aquatic features. These include the ephemeral channel described above (0.0906 acre), a seasonal wetland swale described above (0.0325 acre), a seasonally inundated pond (0.333 acre), and two retention ponds (0.3438 acre). The seasonally inundated pond is located in the western portion of the project site, downslope from the existing facility. The two retention ponds are located immediately southeast and adjacent to the paved area and buildings. A map delineating the aquatic features on the project site is included in Appendix B of the Gibson & Skordal (2010) report. Photographs of selected site features and the surrounding area are included in Appendix A of this HCP.

Adjacent Habitats. With the exception of AT&T communications facility, no habitable structures or disturbances exist on the project site. The project site resides on a hilltop and generally slopes/drains from the north, east, and west to a series of swales, seasonal wetlands, and ephemeral channels. The project site was not graded, grazed, or disked at the time of field surveys, but properties extending from northwest of the project site were disked in a broad swath east to the Tehama Colusa Canal, approximately 1.25 miles east of the project site (see Appendix A, Photos 3, 4, 7, 8, and 12). As such, the surrounding habitat is very disturbed and in intensive agriculture, providing little or no habitat value for CTS at the time of the site visits (in July and August 2010). The property south of County Road 6 was planted in wheat at the time of the 2010 surveys.

4.2 COVERED SPECIES: CALIFORNIA TIGER SALAMANDER

The species addressed in this HCP and covered by the HCP's associated Section 10(a)(1)(B) permit includes one federally listed species, the threatened CTS. CTS are known to occur on the project site and in the general area of the Dunnigan Hills. The CTS is the only federally listed species that could be incidentally taken by the Proposed Project. The CTS is also listed

as threatened by the CDFG.

4.2.1 Conservation Status

The Santa Barbara County population of CTS was federally listed as endangered on September 21, 2000 (65 FR 57242). The Sonoma County Distinct Population Segment (DPS) of CTS was listed as endangered on July 22, 2002 (67 FR 47727). The Central California DPS of CTS was proposed for listing as threatened on May 23, 2003 (68 FR 28648). The Santa Barbara and Sonoma County DPSs were proposed for reclassification from endangered to threatened on May 23, 2003 (68 FR 28648).

The CTS was designated as a Federal Threatened species throughout its range on August 4, 2004 (69 FR 47212), upgrading the Central DPS from a Federal Species of Concern and subsequently downgrading the Federal Endangered status formerly assigned to the Santa Barbara and Sonoma County populations. This designation became effective on September 3, 2004. On August 18, 2005, as a result of litigation of the August 4, 2004 final rule (69 FR 47211), both the Santa Barbara County and Sonoma County DPSs were reinstated their prior listing status as endangered.

The CTS was recently listed as threatened throughout its range by the California Department of Fish and Game. The Office of Administrative Law approved the listing on August 2, 2010 and the regulations became effective on August 19, 2010 (CDFG 2011).

Critical habitat has been designated for CTS in various California counties by the USFWS. The project site is located within the Central Valley Geographic Region, Unit 1, Dunnigan Creek Unit, of designated critical habitat for CTS. This unit consists of 2,730 acres bordered by Interstate 5 on the east, Bird Creek on the south, and Buckeye Creek on the north and west. Land ownership is private and large expanses of this critical habitat unit are in agriculture. Potential impacts of the Proposed Project on critical habitat are provided in Section 5.4 of this HCP.

As of November 2010, a recovery plan has not been prepared for CTS, although the USFWS (2004) has stated its intention to do so. In the interim, efforts toward conservation and recovery of the species appear to emphasize habitat preservation by protecting sites with vernal pools and other suitable wetland habitats from loss, fragmentation, degradation, and incompatible uses. When a project is proposed within the known range of CTS, the USFWS typically requires protection of the surrounding upland habitats to conserve burrowing mammals, whose burrows provide subterranean retreats for CTS during the non-breeding season and during their overland migration to breeding sites.

4.2.2 Taxonomy and Description

The CTS is a member of the family known as Ambystomatidae. They are relatively large, secretive amphibians that are endemic to California. Adults can grow to a length of about 7 to 8.5 inches; males tend to be slightly larger than females (USFWS 2003). They have stocky bodies, broad rounded snouts, protruding black eyes, and long tails that curl around their bodies. Adults are black with yellow or cream spots and stripes on their back, sides, and tail;

larvae are greenish-grey in color. Like other salamanders, their bodies are low to the ground and their four legs protrude sideways. They are poor climbers.

4.2.3 Geographic Distribution

The range of this species includes the Central Valley and low foothills from Dunnigan in Yolo County south to Kern County, and coastal lowlands from near Santa Rosa in Sonoma County, south into Santa Barbara County (Zeiner *et al.* 1988, Shaffer and Stanley 1991).

CTS are typically found at elevations below 460 m (1,509 feet) (USFWS 2004), although the known elevational range extends up to 1,053 m (3,458 feet) (Jennings and Hayes 1994). The species inhabits natural ephemeral pools or artificial ponds that mimic them (e.g., stock ponds that are allowed to dry).

4.2.4 Ecology and Habitats

CTS are typically found in grasslands, oak savannah, and coastal scrub communities of lowlands and foothill regions where aquatic sites are available for breeding. Adults breed in temporary and permanent ponds and in streams, but spend the majority of their lives underground in subterranean retreats (burrows) created by other animals, such as ground squirrels, gophers, and other rodents. CTS appear to be absent in waters containing predatory game fish (69 **FR** 47212).

Breeding takes place after the first rains in late fall and early winter, when the wet season allows the salamanders to migrate to the nearest pond, a journey that may be as far as a mile and take several days. The eggs, which the female lays in small clusters or singly, hatch after approximately 10 to 14 days.

The larval period lasts from 3 to 6 months; however, CTS larvae may also overwinter. Transformation for overwintering larvae may take 13 months or more wherein the larvae feed on other small invertebrates, including tadpoles.

Larvae require a minimum of approximately 10 weeks to complete metamorphic transformation (P. Anderson 1968, Feaver 1971), significantly longer than other amphibians such as the Pacific chorus frog (*Pseudacris regilla*) and western spadefoot (*Spea hammondi*). The duration of the larval period restricts CTS breeding to large vernal pools, vernal playas, and large ponds. Compared to the western toad (*Bufo boreas*) or western spadefoot, CTS are poor burrowers and require subterranean refuges constructed by burrowing mammals such as the California ground squirrel (*Spermophilus beecheyi*), valley pocket gopher (*Thomomys bottae*), and/or other burrowing mammals for occupancy during their non-breeding season (Jennings and Hayes 1994, USFWS 2005).

Salamanders spend the dry season, which comprises most of a year, within these burrows (USFWS 2004b). Although CTS are often considered to be in a state of dormancy, called aestivation, during the period in which they occupy these burrows, evidence suggests that salamanders may remain active while within their burrows (S. Sweet in litt. in USFWS 2004b).

Juvenile CTS have been observed to disperse up to 2.59 kilometers (1.6 miles) from breeding pools to upland areas (Austin and Shaffer 1992). Adults have been observed up to 2 km (1.3 miles) from breeding ponds. Trenham *et al.* (2001) observed CTS moving up to 670 m (2,198 feet) between breeding ponds in Monterey County. Similarly, Shaffer and Trenham (2005) found that 95 percent of CTS resided within 640 m (2,100 feet) of their breeding pond at Jepson Prairie in Solano County.

The distance between occupied upland habitat and breeding sites depends on local topography and vegetation, and the distribution of California ground squirrel or other rodent burrows (Stebbins 2003). Adults emerge from upland sites on rainy nights during fall and winter rains to feed and migrate to breeding ponds (Stebbins 2003, Shaffer *et al.* 1993). Adults use the same migratory routes between breeding pools and upland burrows year after year (Petranka 1998, Loredó *et al.* 1996). Metamorphosed juveniles leave the breeding sites in late spring or early summer and migrate to small mammal burrows (Zeiner *et al.* 1988, Shaffer *et al.* 1993, Loredó *et al.* 1996). Like adults, juveniles may emerge from burrows to feed during nights of high relative humidity (Storer 1925, Shaffer *et al.* 1993) before settling in their selected upland sites for the summer months. While most CTS rely on rodent burrows for shelter, some individuals may utilize soil crevices as temporary shelter during upland migrations (Loredó *et al.* 1996).

4.2.5 Occurrence on the Project Site and in the General Vicinity

The project site is within the extant range of CTS. It is situated within the center of a cluster of recent CTS locality records associated with the Dunnigan Hills (Jennings and Hayes 1994, CNDDDB 2010) (Figure 3). Six records fall within 3.1 miles (5 km) of the project site with one record (CNDDDB occurrence #408) from within the northernmost retention pond on the east side of the AT&T property (Table 1). This record consists of several observations by George Hansen from 1985 through 1990, wherein he documented both adult and larval CTS in the retention pond. Three adult CTS were observed most recently by AT&T personnel and Eric Hansen on the developed portion of the AT&T facility on the mornings of October 25 and 29, 2010. Mr. Hansen also observed several CTS larvae in the seasonal wetland, west of the developed portion of the project site, on April 15 and 30, 2011.

Table 1. CNDDDB occurrence records within 5 km (3.1 miles) of the AT&T project site

Occ. No.	USGS 7.5' Topographic Quadrangle	Township	Range	Section	County	Year Last Seen	Approx. Distance from Project Site	Elevation
55	Zamora	12N	01W	16	Yolo	2001	1.73 mi	100 ft
408	Wildwood School	12N	01W	18	Yolo	1990*	0 mi	240 ft
549	Wildwood School	12N	01W	18	Yolo	2001	0.53 mi	220 ft
627	Wildwood School	12N	01W	08	Yolo	2001	1.7 mi	150 ft
877	Wildwood School	12N	01W	07	Yolo	2006	0.91 mi	205 ft
878	Wildwood School	12N	01W	18	Yolo	2006	0.8 mi	190 ft

Note: The October 2010 and April 2011 sightings of adult and larval CTS, respectively, on the project site have not yet been reported to the CNDDDB.

Figure 3. CTS Occurrence Records within 5 km of the Project Site [[prior to 2010](#)]

5.0 IMPACTS AND ENVIRONMENTAL COMPLIANCE

5.1 IMPACT ASSESSMENT

The project site is located in the foothills of the Coast Range on hilly terrain at an average elevation of about 240 feet. The surrounding landscape is dominated by non-native annual grassland interspersed with patches of oak woodland. An abundance of swales and drainages are present throughout the area, and ephemeral waters persisting through the spring are present within some of the aquatic features on the project site. Both California ground squirrels and microtine rodents are present on the project site. Rodents, such as these, excavate burrows and crevices, which in turn, provide dry-season habitat for CTS. Subterranean refuge is restricted where dense gravel is present around the perimeter of the existing facility footprint.

The 45-acre AT&T property provides breeding and overwintering habitat for CTS, as well as an overland migration route that is not disturbed by agricultural practices, to and from other potential breeding habitats in the general area. The following factors support this assessment:

- 1) Adult CTS were observed on the developed portion of the project site on October 25 and 29, 2010;
- 2) Larval CTS were observed in the seasonal wetland complex west of the developed portion of the project site on April 15 and 30, 2011.
- 3) Both adult and larval CTS were observed in the northernmost retention pond east of the developed area during surveys conducted from 1985 through 1990;
- 4) The project site lies within dispersal distance of suitable breeding habitat on adjacent properties; and
- 5) The project site contains suitable non-breeding habitat and supports burrowing animals, such as the California ground squirrel, whose burrows provide subterranean retreats for CTS.

Therefore, the Proposed Project is likely to result in take of this species. AT&T has revised the building layout and reduced the proposed footprint of the storage facility to minimize potential impacts on CTS by incorporating the following changes:

- Reducing the total building footprint area from 41,500 square feet (37,500 square foot storage building with a loading dock of 4,000 square feet to a total footprint of 33,233 square feet)
- Rotating the original building 90 degrees from its original direction and moving it closer to the existing developed area to take advantage of the existing site topography and to minimize the volume of cut and fill;
- Reducing the volume of fill material from 6,200 cy to 5,272 cy
- Installing a sloped concrete slab and collection system to address spill containment with the building site
- Installing an oil/water drain and collection system to separate the water and capture leaking oil and fuel products for off-site disposal
- Providing storm water collection and drain piping system to divert all rain water from the building gutters and downspouts and surrounding driveway to proper storm water treatment and dispersion areas located on the west and east sides of the developed area. Bioswales

will be constructed to filter out pollutants and slow down the dispersion of runoff, especially after storm surges. Runoff will filter through sandy loam and then percolate through rock.

With the changes stated above and other avoidance and minimization measures that have been incorporated into the project design, the Proposed Project will minimize potential impacts to CTS. CTS can continue to use both the developed portion of the site and the surrounding uplands as an overland migration route and will continue to have access to all aquatic habitats on-site.

5.2 DIRECT AND INDIRECT EFFECTS

Direct impacts to CTS include the permanent loss of 1.24 acres of upland habitat that is potentially suitable during the non-breeding season as overwintering habitat. In addition, approximately 0.33 acre of land surrounding the paved area would be temporarily disturbed during construction activities. Adult CTS may be killed, injured, harassed, or harmed during earthmoving activities if any individuals are overwintering in burrows within the project footprint. Construction is scheduled for the summer and fall of 2011, when CTS are most likely to be in their subterranean retreats.

Indirect impacts, including adverse effects to the remaining upland and breeding habitat, are expected to be minimal. CTS have been confirmed on the project site and the project site is located in a geographic area that is known to support CTS. Suitable breeding habitat is located on-site and will not be impacted by the Proposed Project. The adjacent uplands will continue to provide suitable overwintering habitat. Individuals that migrate overland across the project site to and from breeding ponds would not be prevented from continuing to do so following project completion. No formidable barriers would be created by construction of the new storage building because this area would continue to remain open [i.e., no side walls] and CTS could continue to travel across the paved parking lot as they currently do. Also, activity on the project site is infrequent. Typically, only one AT&T employee is present on the developed portion of the site during daylight hours and there is minimal visitation by other AT&T employees and/or their contractors. Visitors to the site would most likely be present during daylight hours whereas CTS are typically only active at night during rain events. Because of the low use of the site, infrequent visitation by AT&T employees and/or other contractors, and opposite times of activity patterns, take resulting from on-going operations is not expected. The entire AT&T property is fenced and not accessible to the general public or subject to any type of agricultural activities. Once construction of the Proposed Project is complete CTS are expected to continue to use the property as they currently do. The AT&T property may also represent refugia for CTS, since all the surrounding lands are under intense agricultural production and are routinely disked, plowed, planted, and harvested.

5.3 CUMULATIVE EFFECTS

Even though 1.24 acres of upland habitat will be lost due to construction of the new building the facility will still allow CTS migration across the developed portion of the site (see discussion in the preceding paragraph). The AT&T facility has been in existence for more than 40 years, prior to the listing of CTS and designation of critical habitat. Records from the 1980s, as well as recent observations in 2010 and 2011, have documented that CTS continue to use both the

developed and undeveloped portions of the AT&T property.

None of the aquatic features on the AT&T property will be disturbed as part of the Proposed Project. The loss of upland resulting from the Proposed Project is not expected to affect the survival of CTS in this portion of its range because of the effects of the Proposed Project are relatively small in nature, representing 0.034 percent of CTS habitat on-site and only 0.00045 percent of critical habitat in Unit 1. CTS have continued to survive in this portion of their range in spite of the vast acreage of intensive agriculture that surrounds the project site and since the AT&T facility was constructed.

5.4 EFFECTS ON CRITICAL HABITAT

The project site is located within the Central Valley Geographic Region, Unit 1, Dunnigan Creek Unit, of designated critical habitat for CTS. This unit consists of 2,730 acres bordered by Interstate 5 on the east, Bird Creek on the south, and Buckeye Creek on the north and west. Land ownership is private and large expanses of this critical habitat unit are in agriculture.

Both the AT&T property and some of the surrounding properties contain suitable breeding ponds and suitable upland habitat for overwintering. The project site itself (1.24 acres) provides potential upland habitat for temporary subterranean retreat and overwintering. The original building footprint has been modified to reduce its overall size and retain more upland habitat within this critical habitat unit.

Each critical habitat unit contains important physical and biological features (primary constituent elements) (PCEs) that are essential to the conservation of the species, and that may require special management considerations and protection. These include, but are not limited to: 1) space for individual and population growth and for normal behavior; 2) food, water, air, light, minerals, or other nutritional or physiological requirements; 3) cover or shelter; 4) sites for breeding, reproduction, and rearing (or development) of offspring; and 5) habitats that are protected from disturbance or are representative of the historic geographical and ecological distribution of a species.

PCEs for the Central CTS population include essential aquatic habitat, essential upland non-breeding habitat with underground refugia, dispersal habitat connecting occupied CTS locations to each other, and vernal pool complexes where integrated function of uplands and wetlands provide physical and biological features essential to the conservation of the species. In addition, the critical habitat units are designed to conserve the distinct genetic structure of the Central CTS population and allow for an increase in the size of salamander populations, both of which are essential to the conservation of the species.

The USFWS has determined that the Central CTS population requires the following PCEs:

- 1) Standing bodies of fresh water, including natural and man-made (e.g., stock) ponds, vernal pools, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a sufficient length of time necessary for the species to complete the aquatic portion of its life cycle.

2) Barrier-free upland habitats adjacent to breeding ponds that contain small mammal burrows, including, but not limited to, burrows created by the California ground squirrel and valley pocket gopher. Small mammals are essential in creating the underground habitat that adult CTS depend upon for food, shelter, and protection from the elements and predation.

3) Upland areas between occupied locations (PCE 1) and areas with small mammal burrows (PCE 2) that allow for dispersal among such sites.

4) The geographic, topographic, and edaphic features that support aggregations or systems of hydrologically interconnected pools, swales, and other ephemeral wetlands and depressions within a matrix of surrounding uplands, which together form hydrologically and ecologically functional units called vernal pool complexes. These features contribute to the filling and drying of the vernal pool, maintain suitable periods of pool inundation for larval salamanders and their food sources, and provide breeding, feeding, and sheltering habitat for juvenile and adult salamanders and small mammals that create burrow systems essential for CTS aestivation.

The AT&T property includes PCEs #1, 2, and 3; however, the project site contains only PCEs #2 and #3. The AT&T property contains suitable CTS breeding habitat consisting of natural and man-made seasonal wetlands and ponds that is critical to PCE #1. The seasonal wetland complex located west of the developed area sustains water for a minimum of 12 weeks in the winter or spring in a year of average rainfall. This is the amount of time needed for larvae to develop into metamorphosed juveniles so they can become capable of surviving in upland habitats. The 1.24-acre project site does not support any breeding habitat.

The AT&T property contains essential upland habitats with underground refugia as described in PCE #2, which are essential for the survival of adult and juvenile salamanders that have recently undergone metamorphosis. Adult and juvenile CTS are primarily terrestrial. Adult CTS enter aquatic habitats only for relatively short periods of time to breed. For the majority of their life cycle, CTS depend for survival on upland habitats containing underground refugia in the form of small mammal burrows. CTS cannot persist without upland underground refugia. These underground refugia provide protection from the hot, dry weather typical of California in the non-breeding season. CTS also find food in small mammal burrows and rely on the burrows for protection from predators. The presence of small burrowing mammal populations is essential for constructing and maintaining burrows. Without the continuing presence of small mammal burrows in upland habitats, CTS would not be able to survive. The project site contains small mammal burrows.

The AT&T property, including the project site, contains limited dispersal habitats (as identified in PCE #3) adjacent to essential aquatic habitats which are not isolated from essential aquatic habitats by barriers that CTS cannot cross. The dispersal habitats described as PCE #3 are essential for the conservation of CTS. Protecting the ability of CTS to move freely across the landscape in search of suitable aquatic and upland habitats is essential in maintaining gene flow and for recolonization of sites that may become temporarily extirpated.

Essential dispersal habitats provide connectivity among CTS suitable aquatic and upland habitats. While CTS can bypass many obstacles, and do not require a particular type of habitat for dispersal, the habitats connecting essential aquatic and upland habitats need to be free of barriers (e.g., a physical or biological feature that prevents salamanders from dispersing beyond the feature) to function effectively. Examples of barriers are areas of steep topography devoid of soil or vegetation. Agricultural lands such as row crops, orchards, vineyards, and pastures do not constitute barriers to the dispersal of CTS. Most of the private lands surrounding the AT&T property are in agriculture.

The AT&T property does not contain PCE #4. Vernal pool complexes addressed in PCE #4 provide a significant amount of the habitat for the Central CTS population. There are no vernal pools on either the AT&T property or the project site.

The Proposed Project will result in the loss of 1.24 acres of upland habitat within this critical habitat unit due to paving required for the storage facility. This represents 0.00045 percent of critical habitat in this unit. This amounts to a fraction of a percent of upland habitat loss resulting from the Proposed Project.

Construction of the project is not expected to diminish the function of the unit as critical habitat, especially since none of the breeding ponds would be impacted and the remainder of the property would continue to provide overland passage and subterranean retreats. Based on recent sightings of adults in October 2010 and larvae in April 2011 it appears that CTS travel across the site enroute to breeding habitats, and have likely done so since the facility was built in the 1960s. CTS are expected to continue to use the site much as they do now once construction is complete.

6.0 TAKE OF THE COVERED SPECIES

The AT&T property provides suitable upland and breeding habitat for CTS and CTS are known to occur on-site and within the general area. Recent sightings (in October 2010) documented the overland migration of three adult CTS after rainy periods on the developed portion of the project site and April 2011 findings of larval CTS in the seasonal wetland complex indicate successful breeding on-site. Therefore, the Proposed Project is likely to result in take of this species. The anticipated take of CTS is likely to occur during the construction phase.

Because population surveys have not been conducted for CTS on the project site, it is not possible to quantify the exact number of individuals that could be taken by the Proposed Project. Thus, the incidental take permit associated with this HCP will authorize take of any CTS and/or its habitat that may occur on the project site during its construction or implementation.

With a biological monitor on-site during key parts of the construction phase, and other protective measures that have been incorporated into the project (see Section 7.0) the level of take is expected to have negligible effects on the species' overall survival. This is because the actual number of animals incidentally taken will be low, the percentage of the species habitat relative to the species entire geographic range is small, and the actual building footprint's relative importance to the species, both regionally and throughout its range, is thought to be minor. For these reasons, the amount of take of CTS due to the Proposed Project is considered negligible.

The maximum levels of take of CTS anticipated to occur under the HCP are as follows:

Any CTS that may be taken (killed, injured, harmed, or harassed) and/or its habitat within the boundaries of the proposed storage building footprint [on approximately 1.24 acres] during the following covered activities ---

- 1) any grading, earthmoving, and construction operations including, but not limited to use of heavy equipment, vegetation removal, compaction of soils and burrows, and other ground disturbance;
- 2) any permanent loss of habitat resulting from construction of the proposed storage building; and
- 3) the hauling of materials to and from the project site via the existing paved access road to the secured portion of the AT&T property. (Take is unlikely to occur during travel to and from the facility because work is planned for the summer and fall months when dry conditions persist and CTS are typically below ground.)

The incidental take limit is subject to full implementation of all mitigation measures, as described in Section 7.0. If this take limit is exceeded, the applicant shall cease all grading and construction operations and contact the USFWS immediately.

7.0 MITIGATION MEASURES

7.1 USFWS CONSERVATION GUIDELINES

The USFWS and CDFG (2003) have established interim guidance on site assessment and field surveys for determining presence or a negative finding of the CTS; however, mitigation for an individual project's impacts is typically accomplished through the purchase of credits at an agency approved conservation bank. However, other means of compensation are acceptable including avoidance, on-site preservation, or establishment of a conservation easement. The USFWS evaluates each project separately to determine impacts on the species and the type and amount of mitigation that is necessary to compensate for project-related impacts to CTS. If the USFWS requires the purchase of credits at a mitigation bank, the bank's operator is then responsible for all future reporting and maintenance of appropriate habitat on the bank site.

This Proposed Project underwent preliminary informal consultation with USFWS and CDFG staff during the summer and fall of 2010. The project footprint has since been modified to reduce its overall size and configuration and maintain its continuity with the developed portion of the property. The remainder of the AT&T property, including the most suitable CTS upland habitat, will not be disturbed nor will any of the seasonal wetlands or other aquatic habitats on the property. AT&T will purchase four credits of CTS upland habitat at a federally approved mitigation bank whose service area includes the project site to offset the loss of 1.24 acres of upland habitat. This is a mitigation ratio of slightly more than 3:1 ($3 \times 1.24 = 3.72$).

7.2 MITIGATION PLAN

In addition to the measures incorporated into the project description, AT&T will compensate for the loss of CTS upland habitat due to the Proposed Project by purchasing four acres of CTS upland credits at a federally approved mitigation bank prior to the onset of construction. Two mitigation banks that are approved by the USFWS and whose service area covers the project site include the North Suisun Mitigation Bank operated by Wildlands, Inc. and the Burke Ranch Conservation Bank operated by Westervelt Ecological Services. Both banks currently have CTS upland credits available for purchase; however, CTS are more abundant and more widely distributed on the Burke Ranch Conservation Bank. CTS have been documented from only one playa pool at the North Suisun Mitigation Bank. Therefore, AT&T has chosen to purchase the required number of credits at the Burke Ranch Conservation Bank.

7.3 AVOIDANCE AND MINIMIZATION MEASURES

No specific set of avoidance and minimization measures have been prepared by the USFWS for construction projects within potential CTS habitat; however, certain protective measures will be necessary to minimize take during construction. These measures include:

PRIOR TO CONSTRUCTION

- Install exclusion fencing or another barrier acceptable to the USFWS during the winter of 2011 with regular monitoring of CTS activity to establish a CTS-free zone in the

proposed construction area. A permitted individual will move any CTS trapped within this zone to a safe area, such as a small mammal burrow or crevice, outside the fencing.

[Note: Exclusion fencing has been installed around the perimeter of the construction site and will be monitored on a weekly basis until the onset of construction. This fencing consists of 12-inch X 8-foot strips of untreated masonite [hardboard] ripped into 1- X 8-foot sections. Prior to installation of the fence, a 4-inch trench was excavated so the bottom 4 inches of the fence could be buried, leaving 8 inches exposed above ground. The trench was backfilled and wooden stakes were placed at regular intervals to keep the fence in position.]

- Mow all grassland vegetation within the project footprint prior to any grading to expose potential burrows that may be in use by CTS.
- Survey all potential burrows and crevices within the construction footprint with a hand-held fiber optic camera to determine whether any of the burrows are occupied by CTS. (This technique may only yield reliable results if burrows are straight and do not fork.) If CTS are observed these burrows will be excavated by hand by a qualified biologist to remove CTS and relocate individuals to another suitable location out of harm's way.
- Provide environmental awareness training to all workers so that they are knowledgeable about CTS. This training will include a physical description of CTS, its habitat requirements; a discussion of documented occurrences in the general area; an explanation of the legal status and implications of working under a federal Section 10(a)(1)(B) permit; and a discussion of measures being taken to reduce impacts to the species during grading and site preparation. Colored photographs of CTS will be provided for posting on-site.
- The avoidance/minimization measures listed in Section 5.1, Impact Assessment, regarding revising the building layout and reducing the proposed footprint also constitute avoidance and minimization measures.

DURING CONSTRUCTION

- Prohibit night-time construction activities.
- Restrict speed limits on the main access road to less than 15 miles per hour during the CTS migration season, when CTS may be crossing the road to and from breeding habitats. This is especially important if vehicles are traveling on-site during the early morning or evening hours, as this is when CTS are most active.
- Implement standard erosion control measures around seasonal wetlands down slope of the construction site to prevent sedimentation and runoff from construction activities from entering these areas and to prevent potential contamination of aquatic resources, which may serve as breeding areas for CTS.
- Have a permitted individual available on-site during the initial stages of construction and earthmoving activities to handle and relocate CTS, if any are found. Individuals will be relocated to the nearest small mammal burrow or crevice outside of the building footprint and work area.

8.0 PLAN IMPLEMENTATION

8.1 BIOLOGICAL GOALS AND OBJECTIVES

The biological goals of this HCP are:

Goal 1. Minimize the loss of CTS upland habitat.

Objective 1. Redesign the project to minimize the loss CTS upland habitat by reducing the building footprint and moving its location adjacent to the existing developed area. The most suitable upland habitats will continue to function as overland migration corridors and support small mammal populations.

Goal 2. Minimize “take” of CTS that may be in underground burrows.

Objective 2. Install exclusion fencing around the perimeter of the construction site to prevent adult CTS from taking refuge in underground burrows or crevices. Provide a biological monitor during the initial ground disturbance to check for CTS that may be overwintering in underground burrows. Move any individuals found to suitable upland locations (burrows or crevices) outside of the construction zone.

Goal 3: Ensure the off-site mitigation preserves wetland and upland habitats and continue to support CTS.

Objective 3: Purchase 4.0 credits of CTS upland habitat at the Burke Ranch Conservation Bank. Purchasing credits at the Burke Ranch Conservation Bank will assist with implementing the goals of the bank by: (1) preserving the diversity and richness of vernal pool species occurring at the bank; (2) protecting the Bank from the effects of adjacent land uses or unauthorized activities that may adversely impact the Bank; (3) manage the property to minimize the encroachment of invasive, exotic species; and (4) maintain conditions to support the life cycle of the special-status species within the Bank.

8.2 RESPONSIBILITIES

As specified in the USFWS Habitat Conservation Planning Handbook (1996b), an Implementing Agreement (IA) is not required for low effect HCPs unless requested by the permit applicant. AT&T understands that it is responsible for implementing this HCP in accordance with the specifications for mitigation and funding.

8.3 SCOPE

The project area is the 45-acre property owned by AT&T. The project site, as described in Section 2.0 of this HCP, includes only the area that will be disturbed by construction activities (1.24 acres). This HCP covers activities on the project site. All mitigation for the loss of CTS upland habitat will occur off-site at a federally approved mitigation bank.

8.4 PLAN DURATION

AT&T seeks a 5-year permit from the USFWS to cover those activities associated with the proposed storage facility. The 5-year permit term is requested to accommodate any unforeseen delays in scheduling, construction, material acquisition, and/or changes to AT&T existing emergency storage needs.

The permit will expire at the end of the permit term (5 years) once AT&T has fulfilled all of its responsibilities as described in Section 8.2.

8.5 MONITORING

Monitoring under an HCP has three components: 1) Effects Monitoring (making sure that the amount and impact of take post-project is what was analyzed in the HCP); 2) Effectiveness Monitoring (were the avoidance and minimization measures and the mitigation that were specified effective), and 3) Compliance Monitoring (were the avoidance and minimization measures and required mitigation successfully completed).

Monitoring of the project site by a qualified biologist who possesses the necessary permits for handling CTS will be required during the construction phase. The monitor will be present during the initial grading and earthmoving activities.

Future monitoring of CTS populations will be conducted by Westervelt biologists at the Burke Ranch Conservation Bank. The bank opened in 2007 and baseline surveys were conducted that year. Additional monitoring surveys were conducted in 2008, 2009, 2010, and 2011. Future surveys will be conducted in years 7 [2013], 10, 15, and 20. Using the data gathered during these surveys, species presence trends can be identified and specific management thresholds can be determined.

Monitoring for CTS at Burke Ranch consists of three surveys throughout the breeding season to detect larvae and metamorphosed individuals. Surveys efforts entail full seining of the entire water volume of each of the three playa pools. Timing is focused on targeting an early-, mid-, and late-season survey of each pool, and preparation of a brief letter report including results of the surveys. Capture results by pool, and morphometric data on each larval CTS observed, are recorded and provided in the monitoring reports.

8.5.1 Reporting

A post-project monitoring report will be submitted to the USFWS by the project biologist following the completion of the storage facility to address the three monitoring components. Once construction has been completed, and the monitoring report has been approved by the USFWS, no further reporting will be conducted by AT&T. Future monitoring reports will be prepared by Westervelt Ecological Services as part of their ongoing monitoring responsibilities at the Burke Ranch Conservation Bank and submitted annually to the resource agencies.

8.5.2 Adaptive Management

The following has been paraphrased from the Burke Ranch Management Plan:

In preparing a management plan for habitat to be preserved in perpetuity, it must be acknowledged that there will undoubtedly be future developments in habitat and species management that may affect how the Plan Goal is met. This Plan can only provide guidance for adopting new technologies or practices as they are developed. Ultimately, the Bank Manager in coordination with the Monitoring Biologist, and the Resource Agencies, must determine the appropriate management decision for a given situation. Before considering any management action, the Bank Manager must consider the Plan Goal, which is to ensure that the protected wetland and upland habitats within the Preserve are maintained in such condition such that they will continue to support the target flora and fauna in perpetuity. Furthermore, this Plan cannot anticipate all possible site conditions. Therefore, if a condition arises which is not specifically addressed by this plan, the Bank Manager may, upon review and approval by the Resource Agencies, adopt different techniques or procedures than originally described.

Adaptive management practices for the Burke Ranch Conservation Bank will most likely be triggered for changes in biological functions which can be affected by management or maintenance actions. Therefore, it is critical to establish thresholds related to habitat function or species occurrence which will trigger the need for changes in management practices. The Bank has been established primarily for the long-term conservation of state and/or federally-listed threatened and endangered vernal pool invertebrates and **California tiger salamander**. Baseline surveys conducted in 2007 identified the initial level of species presence/use on-site. Subsequent monitoring, in variable rainfall years, has assessed the ongoing presence of CTS and the long-term viability of habitat for this species. Significant changes in habitat or species utilization over the next few years will trigger adjustments in land management or adaptive management practices.

8.6 FUNDING

AT&T is responsible for the full cost of obtaining an incidental take permit under section 10(a)(1)(B) of the ESA and adhering to all conditions imposed by the USFWS to do so. These include, but are not limited to, hiring a qualified biologist to act as a monitor during the construction phase and formalizing any agreements between the USFWS and off-site mitigation bank. It will be AT&T's responsibility to purchase the required number of credits at an approved conservation bank prior to the onset of construction. All of the mitigation/compensation for the loss of CTS upland habitat will occur off-site.

9.0 CHANGED AND UNFORESEEN CIRCUMSTANCES

Section 10 regulations [50 CFR 17.22 (b)(2)(iii)] require that an HCP specify the procedures to be used for dealing with unforeseen circumstances that may arise during the implementation of the HCP. In addition, the Habitat Conservation Plan Assurances ("No Surprises") Rule [50 CFR 17.21 (b)(5)-(6) and 17.22(b)(5)-(6); 63 F.R. 8859] defines "unforeseen circumstances" and "changed circumstances" and describes the obligations of the permittee (AT&T) and the USFWS.

The purpose of the Assurances Rule is to provide assurances to non-federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee. "Changed circumstances" means changes in circumstances affecting a species or geographic area covered by the conservation plan that can reasonably be anticipated by plan developers and the USFWS and that can be planned for (e.g., the listing of a new species, or fire or other natural catastrophic events in areas prone to such events). The policy defines "unforeseen circumstances" as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and the USFWS at the time of the plan's negotiation and development and that result in a substantial and adverse change in status of the covered species.

In determining whether any event constitutes an unforeseen circumstance, the USFWS shall consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the USFWS determines that the unforeseen circumstance will affect the outcome of the HCP, additional conservation and mitigation measures may be necessary. Where the HCP is being properly implemented and an unforeseen circumstance has occurred, the additional measures required of the permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands or waters that are already set aside in the HCP's operating conservation program. Additional conservation and mitigation measures shall not involve the commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under the original terms of the HCP without the consent of the permittee. Letters between the USFWS and the permittee shall document resolution of the situation.

Thus, in the event that unforeseen circumstances adversely affecting CTS occur during the term of the permit, AT&T would not be required to provide additional financial compensation or implement additional land use restrictions above those measures specified in this HCP, provided that the HCP is being properly implemented. This HCP expressly incorporates by

reference the permit assurances set forth in the Habitat Conservation Plan Assurances ("No Surprises") Rule adopted by the USFWS and published in the Federal Register on February 23, 1998 (50 CFR Part 17). Except as otherwise required by law or provided for under the HCP, including those provisions regarding changed circumstances, no further mitigation for the effects of the Proposed Project on CTS may be required from a permittee who is properly implementing the terms of the HCP and the permit. The HCP will be properly implemented if the commitments and provisions of the HCP and the permit have been or are being fully implemented by the permittee.

If a new species that is not covered by the HCP but that may be affected by activities covered by the HCP is listed under the ESA during the term of the Section 10 permit, the USFWS may consider this to be a changed circumstance. In such case, the Section 10 permit will be re-evaluated by the USFWS and the HCP-covered activities may be modified, as necessary, to ensure that the activities covered under the HCP are not likely to jeopardize or result in take or adverse modification of any designated critical habitat of the newly listed species. The landowner shall implement the modifications to the HCP covered activities identified by the USFWS as necessary to avoid the likelihood of jeopardy to or take or adverse modification of the designated critical habitat of the newly listed species. AT&T shall continue to implement such modifications until such time as it has applied for, and USFWS has approved, an amendment to the Section 10 permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species, or until the USFWS notifies AT&T in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of jeopardy or adverse modification of designated critical habitat of the newly listed species.

As to other potential changed circumstances (e.g., fire, flood, insect infestation, plant diseases, earthquake, or other natural disaster), the duration of the permit (i.e., 5 years) makes the occurrence of any such circumstance within the permit period unlikely. The purchase of credits at an approved bank by AT&T includes assurance that the bank will deal with such circumstances. The following is excerpted from the Burke Ranch Management Plan:

Should an emergency situation arise that requires immediate action in an upland area, and would normally require that the Resource Agencies be notified or have review and approval authority, the Resource Agencies will be notified verbally within forty-eight (48) hours of taking the action, with written confirmation of the actions taken within one (1) week. The Grantee will also receive written notification within one (1) week. In these situations, "emergency" is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship.

Should an emergency situation arise that requires immediate action in a wetland or waters of the U.S., but would normally require that a permit be obtained from the Corps of Engineers, the following applies as stated in the Code of Federal Regulations, Title 33, Chapter II, Part 325, Section 325.2 – Processing of Applications:

Emergency procedures – Division engineers are authorized to approve special processing procedures in emergency situations. An "emergency" is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unseen, and significant hardship if corrective action requiring a permit is not

undertaken within a time period less than the normal time needed to process the application under standard procedures.

10.0 PERMIT AMENDMENT/RENEWAL PROCESS

10.1 PERMIT AMENDMENTS

At this time there is no reason to expect that an amendment to the take permit will be required to complete construction of the proposed storage building. However, during the specified permit period an amendment of the Section 10(a) permit for the Proposed Project would be required for any change in the following:

- a) significant revision of the permit area boundary;
- b) the listing under the ESA of a new species not currently addressed in the HCP that may be taken by project activities;
- c) modification of any important project action or mitigation component under the HCP, including funding, that may significantly affect authorized take levels, effects of the project, or the nature or scope of the mitigation programs; and
- d) any other modification of the project likely to result in significant adverse effects to CTS not addressed in the original HCP and permit application.

Amendment of the Section 10(a) permit would be treated in the same manner as an original permit application. Permit amendments typically require a revised HCP, a permit application form and application fee, an Implementing Agreement, a NEPA document, and a 30-day public comment period if it is a low-effect HCP. However, the specific documentation needed in support of a permit amendment may vary, depending on the nature of the amendment. If the permit amendment qualifies as a low-effect HCP, an Implementing Agreement and NEPA document would not be required.

10.2 HCP AMENDMENTS

This HCP may, under certain circumstances, be amended without amending the associated permit, provided that such amendments are of a minor or technical nature and that the effect on the species involved and the levels of take resulting from the amendment are not significantly different than those described in the original HCP. Examples of minor amendments to the HCP that would not require a permit amendment include, but are not limited to:

- minor revisions to the HCP's plan area or boundaries;
- minor changes to the building footprint or design; and
- minor revisions to the engineering calculations of cut and fill.

To amend the HCP without amending the permit, AT&T or its representative must submit to the USFWS, in writing, a description of:

- the proposed amendment;

- an explanation of why the amendment is necessary or desirable; and
- an explanation of why AT&T believes the effects of the proposed amendment would not be significantly different than those described in the original HCP.

If the USFWS concurs with AT&T's proposal, it shall authorize the HCP amendment in writing and the amendment shall be considered effective upon the date of written authorization by the USFWS.

10.3 PERMIT RENEWAL

At least 30 days prior to permit expiration, the Section 10(a)(1)(B) permit may be renewed without the issuance of a new permit, provided that the permit is renewable, and that biological circumstances and other pertinent factors affecting CTS are not significantly different than those described in the original HCP. To renew the permit, AT&T shall submit to the USFWS, in writing:

- a request to renew the permit;
- reference to the original permit number;
- certification that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct, and inclusion of a list of changes;
- a description of any take that has occurred under the existing permit; and
- a description of any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

If the USFWS concurs with the information provided in the request, it may renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If AT&T submits a renewal request and the request is on file with the issuing USFWS office at least 30 days prior to the permit's expiration, the permit shall remain valid while the renewal is being processed, provided the existing permit is renewable. However, neither AT&T nor its contractors may take listed species beyond the quantity authorized by the original permit. If AT&T fails to file a renewal request within 30 days prior to permit expiration, the permit shall become invalid upon expiration. If credits are to be purchased at an USFWS-approved conservation bank the conservation bank operator must have complied with all annual reporting requirements to qualify for a permit renewal.

10.4 PERMIT TRANSFER

The sale or transfer of ownership of the existing AT&T facility and/or the Proposed Project during the life of the permit is extremely unlikely because this facility is an integral component of the company's emergency telecommunications network. The storage and rapid deployment of portable generators are critical to restoring function to telecommunications facilities throughout the western United States following a major disaster.

If any portion of the property should change hands during the life of the permit, all off-site mitigation required by the USFWS must be in place prior to this sale. If the project site should

change ownership for any reason before the storage facility has been completed, the new owner(s) must submit a new permit application, permit fee, and an Assumption Agreement to the USFWS. The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of this HCP unless otherwise specified in the Assumption Agreement and agreed to in advance with the USFWS.

11.0 ALTERNATIVES CONSIDERED

11.1 NO-ACTION ALTERNATIVE

Under the No-Action Alternative, the emergency generator storage facility would not be constructed and AT&T would not implement low-effect HCP for CTS or receive a Section 10(a) incidental take permit from the USFWS. The proposed building site would remain undeveloped although it lies immediately adjacent to the developed portion of the site. AT&T would not be able to store all needed portable generators at this facility, which could result in delays in restoring telecommunications systems following a disaster. This is the most central facility owned by AT&T in the State of California and is a prime location for this use. AT&T has already invested millions of dollars in site development over the last 30 years as it has constructed other communications facilities on this site, both above and below ground.

Because the project site is zoned agriculture, AT&T could choose to lease the undeveloped portion of its 45-acre property to agricultural uses, which is consistent with the adjacent land use north and south of County Road 6 and with the County zoning designation for this property. If this land were leased for agriculture, it could result in significant impacts to CTS during land preparation and harvesting operations (similar to what is occurring on adjacent lands), as well as the loss of a large expanse of undisturbed upland habitat. No off-site mitigation credits would be purchased because no federal permit would be required. For these reasons, the No-Action Alternative has been rejected.

11.2 ON-SITE ALTERNATIVE

An alternative on-site configuration for the covered storage building, with a north-south orientation, was also considered. However, this alternative was rejected because the Proposed Project makes better use of the advantages of the existing topography, minimizes the volume of earthwork required, and reduces the overall building footprint. This alternative would have involved approximately 600 cy of cut and 6,200 cy of fill, requiring the import of 5,600 cy of soil, considerably more than the Proposed Action.

11.3 OFF-SITE ALTERNATIVES

AT&T owns three other sites in northern California that were considered for the storage of the portable generators. These include properties in Rocklin, Manteca, and Richmond. The Rocklin site was rejected due to the presence of fairy shrimp, a special-status species, on the undeveloped portions of the property. The Manteca site was ruled out due to the potential presence of several special status-species, including fairy shrimp, California red legged frog, and CTS. AT&T had previously proposed plans for a fleet yard on the Richmond property; however, these were denied by local agencies due to noise and traffic concerns, making it likely that the Proposed Action would also be rejected. In addition, this site is not as centrally located within California as the Dunnigan property.

11.4 PROPOSED PROJECT (PERMIT ISSUANCE)

Under the Proposed Project Alternative, AT&T would construct its new storage facility on the project site, immediately adjacent to the north edge of the developed area as described in Section 2.0. The Proposed Project Alternative would require the issuance of a Section 10(a)(1)(B) permit to allow construction of the new building. Although the project would result in the permanent loss of 1.24 acres of potential CTS upland habitat, AT&T would purchase credits at a federally approved conservation bank at slightly more than a 3:1 ratio to offset this loss (i.e., AT&T would purchase 4 credits). The most suitable upland habitat and all aquatic habitats on the AT&T property would be left undisturbed and CTS are expected to continue to utilize the site much as they currently do. Adult CTS would still be able to move across the site while traveling overland to and from breeding ponds. Effects to CTS are expected to be minimal with the avoidance and minimization measures that have been incorporated into the project. Therefore, the Proposed Action is the preferred alternative.

12.0 REFERENCES

- Anderson, P.R. 1968. The reproductive and developmental history of the California tiger salamander. Master's thesis, Department of Biology, Fresno State College, Fresno, CA.
- Austin, C.C. and H.B. Shaffer 1992. Short, medium, and long-term repeatability of locomotor performance in the tiger salamander, *Ambystoma californiense*. *Functional Ecology* 6:145-153.
- California Natural Diversity Database. 2010. Computer search of the Wildwood School and surrounding USGS 7.5-minute topographic quadrangles.
- Feaver, P.E. 1971. Breeding pool selection and larval mortality of three California amphibians, *Ambystoma tigrinum californiense* Gray, *Hyla regilla* Baird and Girard, and *Scaphiopus hammondi hammondi* Girard, Master's thesis. Department of Biology, Fresno State College, Fresno, California. 58 pp.
- Gibson & Skordal, LLC. 2010. Jurisdictional delineation report – AT&T portable generator storage facility, Yolo County, California. Prepared for Salas O'Brien Engineers. October 2010.
- Hansen, E.C. 2010. Evaluation of potential California tiger salamander (*Ambystoma californiense*) habitat on the AT&T emergency generator storage project in the Dunnigan Hills, Yolo County, California. Prepared for Salas O'Brien Engineering, Inc., Sacramento, CA. August 4, 2010.
- Jennings, R.M., and M.P. Hayes. 1994. Amphibian and reptile species of special concern in California. Final report submitted to the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA: Contract 8023. 255 pp.
- Loredo, I., D. Van Vuren, and M.L. Morrison. 1996. Habitat use and migration behavior of the California tiger salamander. *Journal of Herpetology* 30: 282-285.
- Petranka, J.W. 1998. Salamanders of the United States and Canada. Smithsonian Institution Press, Washington, D. C. xvi +587 pp
- Stebbins, R.C. 2003. A field guide to western reptiles and amphibians. 3rd edition. Houghton Mifflin Company, Boston, MA. 533 pp.
- Storer, T.I. 1925. A synopsis of the *amphibia* of California. University of California Publications in Zoology 27:60-71.
- Shaffer, H.B. and S. Stanley. 1991. Final report to California Department of Fish and Game; California tiger salamander surveys, 1991: Contract FG9422. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA.
- Shaffer, H.B., R.N. Fisher, and S.E. Stanley. 1993. Status report: the California tiger salamander (*Ambystoma californiense*). Final report for the California Department of Fish and Game. 36 pp.
- Shaffer, H.B. and P.C. Trenham. 2005. *Ambystoma californiense*. Pages 1093-1102 In: M.J. Lannoo (ed.). Status and Conservation of U.S. Amphibians. Volume 2: Species Accounts. University of California Press, Berkeley, CA.

- Trenham, P.C., W.D. Koenig and H.B. Shaffer. 2001. Spatially autocorrelated demography and interpond dispersal in the salamander *Ambystoma californiense*. *Ecology* 82:3519-3530.
- U.S. Fish and Wildlife Service. 1980. Listing the California tiger salamander as a threatened species with critical habitat. *Federal Register* 45:52803-52807.
- U.S. Fish and Wildlife Service. 1984. Recovery plan for the California tiger salamander. Portland, OR. 62 pp.
- U.S. Fish and Wildlife Service. 2004a. Endangered and threatened wildlife and plants: determination of endangered status of the Sonoma County Distinct Population Segment of the California tiger salamander; final rule. *Federal Register* 67(140): 47758-47760
- U.S. Fish and Wildlife Service. 2004b. Endangered and threatened wildlife and plants: determination of threatened status of threatened status for the California tiger salamander; and special rule exemption for existing routine ranching activities; final rule. *Federal Register* 50(17): 47212-47248.
- U.S. Fish and Wildlife Service. 2005. Endangered and threatened wildlife and plants; designation of critical habitat for the California tiger salamander, central population; final rule. *Federal Register* 70:48379-49458.
- U.S. Fish and Wildlife Service. 2009. Endangered and threatened wildlife and plants; designation of critical habitat for the Sonoma County Distinct Population Segment of the California tiger salamander. *Federal Register* 74:41662-41673.
- U.S. Fish and Wildlife Service and California Department of Fish and Game. 2003. Interim guidance on site assessment and field surveys for determining presence or a negative finding of the California tiger salamander. October 2003. 12 pp.
- U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1996b. Habitat conservation planning handbook. Washington, DC.
- Yolo County. 2009. 2030 countywide general plan.
- Zeiner, D.C., W.F. Laudenslayer Jr. and K.E. Mayer, eds. 1988. California's wildlife, Volume 1, amphibians and reptiles. California Department of Fish and Game, Sacramento, CA.

Personal Communications

- Gardner, Todd. Wildlife Biologist. April and May 2011. California Department of Fish and Game, Region II, Rancho Cordova, CA. Email correspondence and telephone conversations regarding the project, potential effects on California tiger salamander, and mitigation banks.

APPENDIX A

Photographs of the AT&T Project Site And Surrounding Area